Claims

[c1]	1. A process for removing a contaminant from a substrate comprising:
	placing the substrate within a chamber, wherein the substrate includes a
	pseudoplastic material and the contaminant;
	exposing the pseudoplastic material to a supercritical fluid to remove at least
	part of the contaminant from the substrate; and
	removing the substrate from the chamber after exposing,
	wherein a shape of the pseudoplastic material, after removing, is not
	significantly changed when compared to the shape of the pseudoplastic
	material, before placing.

[c2]

2. The process of claim 1, wherein the pseudoplastic material comprises a material consisting of resist, polyimide, and spin-on dielectric.

[c3]

3. The process of claim 1, wherein: the supercritical fluid comprises molecules with a dipole moment less than approximately one; and the contaminant includes water.

[c4]

4. The process of claim 3, wherein the molecules are selected from a group consisting of carbon dioxide and sulfur hexafluoride.

[c5]

5. The process of claim 4, wherein the supercritical fluid further comprises fluorinated organic molecules.

[c6]

6. The process of claim 1, further comprising purging the chamber with a gas before exposing, wherein the gas and the supercritical fluid comprise a same molecular compound.

[c7]

7. The process of claim 1, further comprising separating at least a portion of the contaminant from a compound within the supercritical fluid.

[c8]

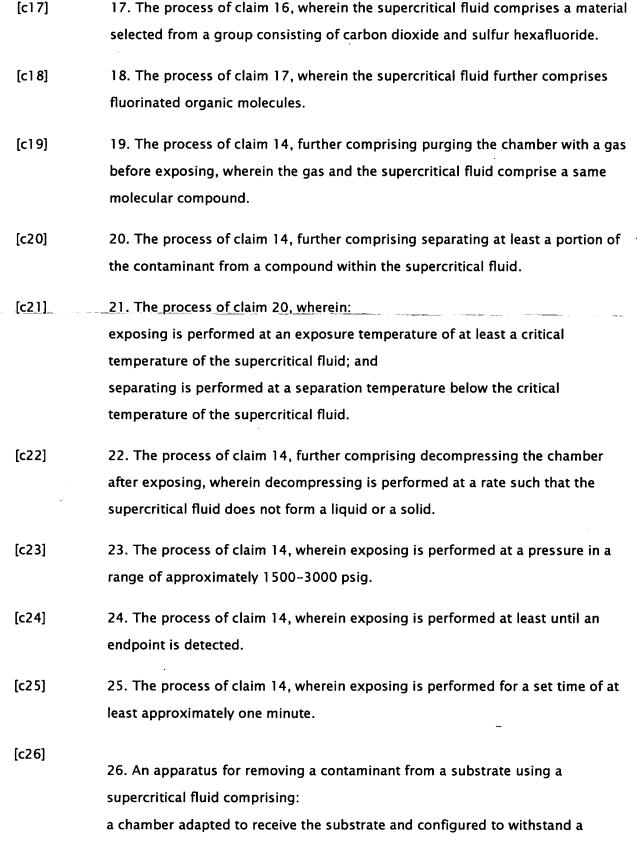
8. The process of claim 7, wherein:
exposing is performed at an exposure temperature of at least a critical
temperature of the supercritical fluid; and
separating is performed at a separation temperature below the critical

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temperature of the supercritical fluid.

	[c9]	9. The process of claim 1, further comprising decompressing the chamber after exposing, wherein decompressing is performed at a rate such that the supercritical fluid does not form a liquid or a solid.
	[c10]	10. The process of claim 1, wherein exposing is performed at a pressure in a range of approximately 1500-3000 psig.
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	[c11]	11. The process of claim 1, wherein: the pseudoplastic material is at least part of a patterned organic layer defining an opening; and the opening has an aspect ratio of at least approximately 2:1.
The state of the s	[c12]	12. The process of claim 1, wherein exposing is performed at least until an endpoint is detected.
	[c13]	13. The process of claim 1, wherein exposing is performed for a set time of at least approximately one minute.
	[c14]	14. A process for removing a contaminant from a substrate comprising: placing the substrate within a chamber, wherein: the substrate includes the contaminant; and the contaminant includes molecules having a dipole moment of at least approximately one; exposing the substrate to a supercritical fluid to remove at least part of the contaminant from the substrate, wherein the supercritical fluid comprises molecules with a dipole moment less than approximately one; and removing the substrate from the chamber after exposing.
	[c15]	15. The process of claim 14, wherein the substrate comprises a material consisting of resist, polyimide, and spin-on dielectric.
	[c16]	16. The process of claim 15, wherein: the resist is at least part of a patterned layer defining an opening; the opening has an aspect ratio of at least approximately 2:1; and

at least part of the contaminant lies near a bottom of the opening.



a first temperature modulator adapted to cool the supercritical fluid to a liquid;

pressure of the supercritical fluid;

- [c27] 27. The apparatus of claim 26, further comprising a second temperature modulator adapted to heat the liquid to the supercritical fluid before reaching the chamber.
- [c28] 28. The apparatus of claim 27, further comprising a controller adapted to control a value of a parameter of the recirculating pump or a value of a parameter of the at least one temperature modulator.
- [c29] 29. The apparatus of claim 27, wherein each of the first and second temperature modulators comprises a heat exchanger.
 - 30. The apparatus of claim 26, wherein the separating portion includes a section lying at an elevation lower than adjacent parts of the apparatus.
 - 31. The apparatus of claim 26, wherein the separating portion lies outside the chamber.
- [c32] 32. The apparatus of claim 26, further comprising a gas feed section including a pressurizing pump that is adapted to increase a pressure of a gas at least to its corresponding supercritical pressure.

33. The apparatus of claim 26, further comprising a recirculating pump and

tubing, wherein:

portions of the tubing are connected to the chamber, the first temperature modulator, the separating portion, and the recirculating pump; and the apparatus includes a portion that is configured to operate as a closed-loop section during at least a point in time, wherein the closed-loop section includes the chamber, the first temperature modulator, the separator portion, the recirculating pump, and the tubing.

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[c30]

[c31]

[c33]